Jail Management Evaluation Index Indicates Conditions in New York City Jails

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The New York City Board of Correction has been working to develop a management evaluation index to enhance its ability to analyze conditions in the New York City jail system. The index targets three broad areas of jail management: security, staff, and service provision. We collected data from these areas and arrived at one broad indicator designed to measure the overall well-being of jails in the New York City system.

New York City has more than 22,000 inmates and more than 13,000 Department of Correction staff, including over 11,000 uniformed staff. The Board of Correction has a field staff of thirteen to check compliance with standards and to address inmate grievances. Twelve office staff respond to infraction appeals, analyze data, perform research, make policy recommendations, and perform administrative duties.

As with every other system in the country, the New York City system is growing rapidly every year and is simultaneously faced with tighter budget constraints. As the correctional system continues to grow to unpredictable levels and becomes increasingly complex, it becomes more important for us to be able to simplify analysis without compromising its quality.

The management evaluation index provides a method for analyzing large amounts of data simultaneously, allowing the board to collect and analyze much more data than was previously possible. The index also has improved the quality of analyses performed by providing both a wider base of information and a basis for evaluating it.

The process of developing the index has required identifying the components of jail management, collecting data that attempt to measure those components, evaluating how the indicators relate to each other, and based on all these, making a judgment about the relative importance of each of the indicators. Rather than focusing on one issue at a time, we intended the index to provide a broad picture of the status of a jail.

The index has the potential to allow the board to analyze more fully and quickly the effects of various policy decisions. It can provide the basis for developing models based on probability to project the effects of proposed policy initiatives before they are implemented.

Step One: Identifying Relevant Categories

The first step in developing the index was deciding what we were interested in knowing about the city's jails. We grouped the issues into three basic categories: security, staffing, and service provision. These categories reflect many of the basic issues with which the Board of Correction has been concerned over the past several years. Other jail systems might find it more useful to categorize their data differently.

Step Two: **Identifying Indicators**

The next step was to identify specific variables to use as indicators to represent the four categories. Data were collected for a thirty-six month period from October 1987 through September 1990 and were obtained only from jails that could provide consistent and distinct data for most of the period. This eliminated some of the more unique jails in the system, including two jail barges that have gone in and out of service, changed location, and been used for differing purposes (e.g., work release, drug programs) during the period. Also, some of the smaller jails did not have distinct records available in every category. These facilities are considered part of a larger command and, therefore, their

records are sometimes lumped together with the other jails in the command. All the data used were compiled from Department of Correction reports, logbooks, and other records.

Once the indicators were identified and the data collected, our task was to combine them in a meaningful way. We made the assumption that all the categories are interrelated to some degree. Issues such as staff overtime and absences may affect violence, security, and service provision; violence affects absences and overtime; absences affect overtime; overtime affects absences; and so on.

With the exception of the staff/inmate ratio, we viewed the categories as both dependent and independent variables, meaning that they both exerted influence on and were influenced by the other variables. We viewed the staff/inmate ratio as causal only because, at a particular time, it could not be caused by any of the other variables.

Step Three: Weighting Indicators

Each indicator was weighted to determine how much it should influence the index. There is no established approach to assigning weights, however. It can be done based on intuitive or subjective knowledge of the jail system or simply by weighting all indicators equally. We chose to assign weights based on the degree to which each indicator is correlated with the other indicators.

Because of the general nature of the variables, precise estimates of cause and effect would have been extremely difficult to determine. Instead, we chose to use the relative correlation of the variables as the basis for their weights. That is, the more a change in the level of one variable was associated with a change in the level of other variables, the greater the weight attributed to that variable, regardless of whether there was a direct cause-effect link. What this approach produced is the degree to which each variable acts as an indicator of the state of the "rest of the system," as opposed to how much it affects or causes the state of the system.

Of the three major categories, staff indicators turned out to have the greatest combined weight at 45.7 percent, followed by indicators for security at 31.0 percent and service provision at 23.0 percent. Staff/inmate staff ratio was weighted the most heavily of the individual indicators at 16.3 percent. Other individual indicators assigned relatively high weights were violence level (14.0 percent), weapons contraband infractions (10.3 percent), absences related to non-line-of-duty injury (10.3 percent), and overtime (10.1 percent).

To calculate an index value, we had to determine a base value. We considered two methods for doing this. The first was to pick one time period to compare against the others. The problem was that it was not easy to determine a normal value for the index, making results difficult to analyze without comparing them to values from several other periods or from several other facilities, or both.

Another method we considered was using an average of the values from all periods as the basis for comparison. This would allow us to see from a single index value how well a

Variables Used to Create the Jail Management Evaluation Index

Security
- Weapons contraband
- Drug contraband
- Violence

Staff
- Staff/inmate ratio
- Overtime
- Line-of-duty injury absences
- Non-line-of-duty injury absences

Service Provision
- Inmate grievances
  - DOC procedures
  - Personal items
  - Living environment
  - Services and programs
  - Communication
  - Inmate employment
- Guidance and counseling
  - Crisis intervention
  - Individual counseling
  - Outside referrals
  - Inside referrals
  - Other services
- Law library usage
- Recreation attendance
- Clinic visits
- Visits

jail was doing compared to its own average. Therefore, we chose to use this average value as the index base.

Step Four: Calculating Average Index Values

We calculated the average in two ways, creating two different indexes. The first method was to calculate the average value for each indicator for each jail. In this way, the jail's current index value could be compared to its own average values, providing a way to measure trends in a particular jail over time or to identify relative improvement or decline. However, this method for calculating the base value may result in a higher rating for a jail that has not performed well but has improved somewhat than for a jail that has performed well but has not recently performed quite as well. As long as the statistic is interpreted as the relative performance of each jail to its own past performance rather than as a comparison of the performance of the two jails, this is not a problem.

Second, we calculated the average **value** for each indicator for all the jails to see how each jail ranked in relation to the others. This created a better statistic for comparison across jails, but it gave an unfair advantage to jails with easier-to-manage inmate classifications. We could have overcome this by including classification variables in the index but did not because we also wanted to compare the performance of jails with differing classifications, For example, we wanted to compare the performance of jail housing high numbers of parole violators and those housing few.

The final result was two sets of index values for each facility and each month. The first set was derived by using as base values the average indicator values for each facility, and the second by using the average values calculated for all twelve facilities.

The first index yielded results that had a smaller range. This is understandable, as we would expect more consistency when comparing one jail's performance over time than when comparing one jail to another. When we used the all-jail averages as a basis for comparison, some jails almost always had values above 100, while others nearly always had values below 100. A look at each jail separately, however, showed that the variation from month to month was much less when using the all-jail index than when using each jail's own index.

For both indexes, jails tended to show values above or below 100 for several months in a row, meaning that trends could be identified. If the index scores had been radically different from month to month, it would have diminished the index's usefulness as a warning system.

Step Five: Testing the Validity of the Index Values

Finally, to test the validity of the index values, we looked at several categories of "special incidents" to compare the index values for when and where these incidents occurred. Although we did not expect the index to be capable of predicting these incidents, we expected the index value for the facility to be below 100 when these incidents occured. We found in testing, however, that the index derived from the all-jail average values did not perform well at all, while the index derived from the average scores of each jail performed slightly better. For the categories of suicide, homicide, and escape, we found no correlation between either index value and the occurrence of the incident. Because these incidents generally involve few inmates or even just one, they may have little relation to overall conditions in a jail.

More encouraging results were obtained in looking at the occurrence of inmate disturbances. Of eight incidents that can be categorized as serious inmate disturbances for the period of the study, six occurred in jails that had index values below 100 for that period. This result is far from being statistically significant, however, and provides only anecdotal support for the validity of the index. Clearly, we need to develop other tests before we can feel confident of the index values. The project nevertheless represents a step toward developing an index to analyze conditions in the jail system. We intend to pursue further efforts in this direction.

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